DOCUMENT RESUME

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TITLE	Individualized Instructional Analysis System.
INSTITUTION	Purdue Univ., Lafayette, Ind.
PUB DATE	Nov 73
NOTE	26p.
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IDENTIFIERS	Distinguished Achievement Awards Entry; *Instructional Analysis

ABSTRACT

Instructors in the Department of Education at Purdue University have developed a combination of educational innovations called "Individualized Instructional Analysis System (IIAS)." The system is a combination of microteaching, interactional analysis, and audio-tutorial techniques. The microteaching aspect employs a teacher who teaches a very brief lesson which is videotaped. He then observes and participates in a critique of the taped sample of his teaching, revises his teaching, and then performs the whole sequence again. Interactional analysis involves the identification of certain verbal behaviors in a classroom and the evaluation of them. Thus, it is possible to ascertain how much the students talk relative to how much a teacher talks; how many questions are being asked; whether the questions really extend a student's thinking, or whether they cut it short. Audio-tutoring is an individualized process which makes use of a variety of programmed audiovisual materials in such a way that students learn according to their own rates. With the audio-tutorial system, the student and the teaching device are paired off. The one-to-one ratio provides each student with a tutor of unlimited patience. (Included in this document are a summary of the program, a case study, and material from student evaluations.) (Author/JA)

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ED 085388

ABSTRACT/INFORMATION FORM - 1974 DAA PROGRAM

Please Type or Print:

Name of Program Submitted: Individualized Instructional Analysis System

Institution (complete Name): Purdue University

President: President Hansen

Campus Public Information Officer: Howard Gillespie

Faculty Member Responsible for Program: Dr. Barth Dr. Shermis

Title of the Faculty Member: Associate Professors

Signature: James L. Barth S. Samuel Shermis

Title: Associate Professors Date:

The old classroom lecture method does not really do the job, for it is far too easy for the student to tune out the teacher. A better idea is more individualized instruction - somewhat like the idea of having the teacher on one end of a log and the student on the other. James L. Barth and S. Samuel Shermis, associate professors in the Department of Education, have developed a combination of educational innovations, which they call "Individualized Instructional Analysis System (IIAS)." The system which Barth and Shermis developed as a means of aiding teachers in capturing the imagination of pupils and meeting their individual needs is a combination of microteaching, interactional analysis, and audio-tutorial techniques. Microteaching involves a teacher who teaches a very brief lesson which is videotaped. He then observes and participates in a critique of the taped sample of his teaching, and revises his teaching, and then performs the entire sequence over again. Interactional analysis involves the identification of certain verbal behaviors in a classroom and the evaluation of these. Thus, it is possible to ascertain how much students talk relative to how much a teacher talks; how many questions are being asked; whether the questions really extend a student's thinking, or whether they cut it short. Audio-tutorial is an individualized process, which makes use of a variety of programmed audiovisual materials in such a way that students learn according to their own rate. With the audio-tutorial system, the student and teaching device are paired off. The one-to-one ratio provides each student with a tutor of unlimited patience. The student does not have to compete with others or risk the danger of revealing his ignorance. As the IIAS program developed, modifications were made in certain classrooms in the Education Building and new equip-

SP 007 571

ment was installed to take advantage of this particular combination of innovative teaching techniques. Recent changes include a resource center, a complex audio-tutorial learning laboratory, a facilities depository, and several microteaching stations. Besides the benefits to the teacher training program, the work at Purdue has had an important spinoff. These innovations have been introduced into a number of Hoosier high schools, into educational workshops, teacher institutes, in-service training for a mental hospital, and for minicourses in other schools of the university.

TABLE OF CONTENTS TO DAA ENTRY

The following materials are included in order.

1. Transmittal letter from Charles R. Hicks, Head, Department of Education.
2. Statement summarizing the submitted program.
3. A written case study of IIAS accompanied by audio tape and slide set.
4. Abstract form describing submitted program.
5. Supplementary materials in support of entry:
    a. Outstanding Innovations in Helping Students Learn Award.
    b. Course evaluation on Professors Barth and Shermis.

The IIAS system which is described in the following entry has been in the process of development for the past five years. The system has grown and evolved as the developers have learned and applied the specific skills necessary to make the system work.

SUMMARY STATEMENT OF PROGRAM

We are submitting a program entitled IIAS, standing for Individualized Instructional Analysis System, used in the Social Studies Education section, Department of Education, Purdue University. This system combines a number of innovations developed here and elsewhere in a unified system designed to prepare student teachers to be professional social studies teachers.

IIAS utilizes microteaching, interaction analysis and audio-tutorial in an eight weeks methods course taken just prior to an eight week student teaching experience. Microteaching involves a microteacher who teaches a brief lesson before microstudents and a cameraman operating a videotape recorder. The student teacher is evaluated by the microstudents, and then observes his own teaching on the monitor. His teaching is evaluated and analyzed by the microsupervisor and the students, after which the microteacher then prepares the same lesson, with modification, as he works with the microsupervisor. He then repeats the same sequence before new microstudents.

Interaction analysis involves the identification and evaluation of certain verbal behavior in a classroom. Interaction analysis can provide precise, pinpoint feedback to students, answering such questions as How much does a teacher talk relative to how much students talk? How many questions are being asked? Do the questions really extend a student's thinking or do they cut it short? With the feedback the students can design much more effective questioning strategies.

Finally, audio-tutorial, developed originally at Purdue, is an individualized self-instructional process which makes use of a variety of programmed audiovisual materials in such a way that students learn at their own rate of speed. Using A-T units on a variety of topics--introduction to the social studies, writing behavioral objectives, locating and using resources--the students learn concepts and skills. And this allows the time in class to be used for purposes of demonstration, discussion and elaboration of ideas gained from the A-T lesson.

This system has required some important changes in the facilities and classrooms of the Education Department, such as a resource center, a complex audio-tutorial learning laboratory, a facilities depository and several microteaching stations. This system has been extended not only to schools but to the training of nurses, psychiatrists and rabbinical students. All these innovations have been introduced to schools, hospitals, teacher institutes, in-service training and mini-courses by the two developers.

PURDUE UNIVERSITY
DEPARTMENT OF EDUCATION
WEST LAFAYETTE, INDIANA 47907

In order to provide important collateral evidence, we are submitting students evaluations of the course made in October, 1973 to cover the Fall, 1973 Methods of Teaching Social Studies. Please note that the first evaluation is of Professor Barth and the second of Professor Shermis. Note, too, that the evaluations cover two different sections of the same course. Thus, the student evaluations rate the system as well as both instructors.

This particular instrument was created by Purdue's Test and Measurements Department and is open, on an optional basis, for all instructors at Purdue.

This instrument is called "Cafeteria," a descriptive name, for all instructors are not required to use precisely the same set of questions. Rather, a given instructor may select 48 questions; another 5 questions are pre-selected, that is, given to all students.

Students are asked to respond to each question by indicating now much the statement is like their instructor. Thus, the student answers A if the statement is "very much" like his instructor, and D if the statement is very much unlike the instructor. (Described on the accompanying document, Instructor and Course Appraisal Instruction Sheet).

The computer assigns a number value to each item, adds up the total for each item and divides it by the number of students answering that question. What is yielded is an arithmetical average. The lower the average, the more positive

the students' evluations. One is the highest point value that an instructor can earn on a given item. Four is the lowest point value he can ear.

We wish to call attention to the last two items, numbers 53 and 52, on both sheets. These give the student's all over evaluation of the course and the instructor, as compared with all other courses he has taken.

To conclude, the reason for these evaluations is to demonstrate that, as judged by the students, those who are directly affected by the IIAS system, students will respond positively to an instructional system that effectively teaches them appropriate teaching behavior. As opposed to the fairly medio re evaluations which students tend to give educational methods courses in general, these students are saying, in effect, "This approach works and we like it."

INSTRUCTOR AND COURSE APPRAISAL

Instruction Sheet

This questionnaire provides you with an opportunity to express your feelings about your instructor and this course. There are, of course, no right or wrong answers, so respond to each statement exactly as you feel. All responses will be treated as group data and in no instance will your answers be made known to your instructor. In fact, DO NOT WRITE YOUR NAME ANYPLACE ON THE MARK-SENSE CARD. Please respond to all statements.

Directions for Recording Responses

This questionnaire is composed of two types of items--statements relating to your instructor and statements relating to this course. Read each statement carefully and decide how well it describes your instructor or this course or the things your instructor does. Then select one of the five alternative responses for each item separately. Mark your answers on the mark-sense card in the following manner:

If the statement is "Very Much Like Your Instructor or This Course" blacken the space marked A	(A)	B	C	D	E
If the statement is "Somewhat Like Your Instructor or This Course" blacken the space marked B	A	(B)	C	D	E
If the statement is "Somewhat Unlike Your Instructor or This Course" blacken the space marked C	A	B	(C)	D	E
If the statement is "Very Much Unlike Your Instructor or This Course" blacken the space marked D	A	B	C	(D)	E
If you "Don't Know" or the statement "Doesn't Apply" to your instructor or this course blacken the space marked E	A	B	C	D	(E)

All marks should be heavy and completely fill the answer space. If you change a response, erase the first mark completely. Use only the electrographic pencil provided by your instructor.

COURSE AND INSTRUCTOR EVALUATION FOR SOCIAL STUDIES EDUC
406-A BARTH

1. MY INSTRUCTORS ARE GOOD RESOURCE PERSONS.
2. MY INSTRUCTORS SEEM TO KEEP CURRENT WITH DEVELOPMENTS IN THE FIELD.
3. WHEN LECTURING MY INSTRUCTORS HOLD THE ATTENTION OF THE CLASS.
4. MY INSTRUCTORS ENCOURAGE STUDENTS TO TALK ABOUT THEIR PROBLEMS.
5. MY INSTRUCTORS ARE AVAILABLE DURING OFFICE HOURS.
6. MY INSTRUCTORS DEAL FAIRLY AND IMPARTIALLY WITH STUDENTS.
7. MY INSTRUCTORS BELITTLE OR ARE SARCASTIC WITH STUDENTS.
8. MY INSTRUCTORS MAKE ME FEEL I AM AN IMPORTANT MEMBER OF THIS CLASS.
9. MY INSTRUCTORS RELATE TO STUDENTS AS INDIVIDUALS.
10. MY INSTRUCTORS INVITE CRITICISM OF THEIR IDEAS.
11. MY INSTRUCTORS INVITE CRITICISM OF THEIR TEACHING METHODS.
12. MY INSTRUCTORS ACCEPT CRITICISM AND SUGGESTIONS FROM STUDENTS.
13. MY INSTRUCTORS MAKE ME FEEL FREE TO EXPRESS CRITICISM.
14. MY INSTRUCTORS ENCOURAGE STUDENTS TO ASK QUESTIONS.
15. MY INSTRUCTORS ENCOURAGE CLASS PARTICIPATION.
16. MY INSTRUCTORS MAKE ME FEEL FREE TO ASK QUESTIONS.
17. MY INSTRUCTORS APPEAR SKILLFUL IN DEVELOPING CLASSROOM DISCUSSION.
18. MY INSTRUCTORS SHOW ENTHUSIASM WHEN TEACHING.
19. MY INSTRUCTORS ENCOURAGE ME TO DO MY BEST WORK.
20. MY INSTRUCTORS STIMULATE MY THINKING.
21. MY INSTRUCTORS OFFER SPECIFIC SUGGESTIONS FOR IMPROVING MY WEAKNESSES.
22. MY INSTRUCTORS EVALUATE PROGRESS OFTEN AND PROVIDE HELP WHERE NEEDED.
23. MY INSTRUCTORS USE MANY METHODS TO INTEREST AND INVOLVE ME IN LEARNING.
24. MY INSTRUCTORS RETURN PAPERS QUICKLY ENOUGH TO BENEFIT ME.
25. MY INSTRUCTORS USE INNOVATIVE TEACHING METHODS TO HELP ME LEARN.
26. MY INSTRUCTORS USE TEACHING METHODS WELL-SUITED TO THIS COURSE'S GOALS.
27. MY INSTRUCTORS ADJUST TO FIT INDIVIDUAL ABILITIES, NEEDS, AND INTERESTS.
28. INSTRUCTION WAS WELL COORDINATED AMONG THE TEAM TEACHERS.
29. THE TEAM TEACHING APPROACH MET MY NEEDS AND INTERESTS.
30. TEAM TEACHING PROVIDED ME WITH DIVERSE INSIGHTS INTO COURSE MATERIALS.
31. TEAM TEACHING PROVIDED INSIGHTS THAT A SINGLE INSTRUCTOR COULD NOT.
32. OBJECTIVES WERE STATED FOR EACH UNIT IN THIS COURSE.
33. THE COURSE OBJECTIVES WERE CLEAR.
34. THE COURSE OBJECTIVES ALLOWED ME TO KNOW WHEN I WAS MAKING PROGRESS.
35. EVALUATION INSTRUMENTS, INCLUDING EXAMS, WERE OF INSTRUCTIONAL VALUE.
36. EXAMS WERE FAIR.
37. EVALUATION INSTRUMENTS COORDINATED WITH THE MAJOR COURSE OBJECTIVES.
38. THE GRADING SYSTEM WAS CLEARLY EXPLAINED.
39. DIRECTIONS FOR THE COURSE ASSIGNMENTS WERE CLEAR AND SPECIFIC.
40. ASSIGNMENTS WERE RELATED TO THE GOALS OF THIS COURSE.
41. ASSIGNMENTS WERE OF DEFINITE INSTRUCTIONAL VALUE.
42. THE ASSIGNED READING WAS GENERALLY INTERESTING AND HELD MY ATTENTION.
43. THE ASSIGNED READING SIGNIFICANTLY CONTRIBUTED TO THIS COURSE.
44. THE AUDIO-TUTORIAL LAB HAD ADEQUATE FACILITIES.
45. THE AUDIO-TUTORIAL LAB OFFERED THE OPPORTUNITY TO WORK AT MY OWN RATE.
46. EL. SCHOOL PARTICIPATION WAS ESSENTIAL FOR PREPARING ME TO STUDENT TEACH.
47. WORKING WITH ELEMENTARY STUDENTS WAS VERY SATISFYING.
48. EL. SCHOOL PARTICIPATION WAS ONE OF THE MOST EFFECTIVE COURSE REQUIREMENTS.
49. MY INSTRUCTORS DIRECTLY CONTRIBUTED TO BROADENING MY INTERESTS.
50. COURSE ASSIGNMENTS WERE INTERESTING AND STIMULATING.
51. THE STATED GOALS OF THIS COURSE WERE CONSISTENTLY PURSUED.
52. OVERALL, THIS COURSE IS AMONG THE BEST I HAVE TAKEN AT PURDUE.
53. OVERALL, I CONSIDER MY INSTRUCTORS TO BE AMONG THE TOP 25 PCT. AT PURDUE.

VALUATION FOR SOCIAL STUDIES EDUCATIC 10/23/73
4C6-A BARTH

	(A) (1)	(B) (2)	(C) (3)	(D) (4)	(E) (5)	MEDIAN
. . . . .	12	3	0	0	0	1.13
DEVELOPMENTS IN THE FIELD. . . .	14	1	0	0	0	1.04
TENTION OF THE CLASS.	4	7	3	1	0	2.00
ABOUT THEIR PROBLEMS.	12	3	0	0	0	1.13
E HOURS.	8	3	3	1	0	1.44
Y WITH STUDENTS.	6	7	0	1	1	1.64
WITH STUDENTS.	0	4	2	9	0	3.67
TANT MEMBER OF THIS CLASS. . . .	6	6	2	1	0	1.75
VIDUALS.	9	4	1	1	0	1.33
IDEAS. . . . . B .	2	10	2	1	0	2.05
TEACHING METHODS.	4	4	5	2	0	2.38
STIONS FROM STUDENTS.	4	5	5	1	0	2.20
SS CRITICISM.	5	7	2	1	0	1.86
UESTIONS.	11	4	0	0	0	1.18
ION.	12	3	0	0	0	1.13
UESTIONS.	10	4	0	1	0	1.25
ING CLASSROOM DISCUSSION. . . .	6	8	1	0	0	1.69
ING.	10	3	1	0	1	1.20
WORK.	7	6	2	0	0	1.58
. . . . .	8	6	1	0	0	1.44
FOR IMPROVING MY WEAKNESSES. . .	7	6	1	1	0	1.58
D PROVIDE HELP WHERE NEEDED. . .	6	6	2	0	1	1.67
ST AND INVOLVE ME IN LEARNING. .	12	3	0	0	0	1.13
GH TO BENEFIT ME.	11	4	0	0	0	1.18
THODS TO HELP ME LEARN.	11	2	2	0	0	1.18
SUITED TO THIS COURSE S GOALS. .	11	3	1	0	0	1.18
BILITIES, NEEDS, AND INTERESTS. .	5	8	2	0	0	1.81
E TEAM TEACHERS.	3	6	5	1	0	2.25
ND INTERESTS.	2	9	3	0	1	2.06
SIGHTS INTO COURSE MATERIALS. . .	4	5	5	0	1	2.10
NGLE INSTRUCTOR COULD NOT. . . .	4	5	4	2	0	2.20
HIS COURSE.	12	3	0	0	0	1.13
. . . . .	12	2	0	0	1	1.08
WHEN I WAS MAKING PROGRESS. . . .	9	4	2	0	0	1.33
WERE OF INSTRUCTIONAL VALUE. . .	9	2	0	2	2	1.22
. . . . .	4	1	0	0	10	1.13
HE MAJOR COURSE OBJECTIVES. . . .	11	2	1	0	1	1.14
. . . . .	4	2	3	4	2	2.67
E CLEAR AND SPECIFIC.	8	5	1	0	1	1.38
THIS COURSE.	12	3	0	0	0	1.13
VALUE.	6	8	1	0	0	1.69
STING AND HELD MY ATTENTION. . .	3	7	4	0	1	2.07
BUTED TO THIS COURSE.	4	6	3	0	2	1.92
ITIES.	11	3	0	1	0	1.18
UNITY TO WORK AT MY OWN RATE.. .	7	5	0	3	0	1.60
R PREPARING ME TO STUDENT TEACH. .	7	5	2	1	0	1.60
SATISFYING.	9	5	1	0	0	1.33
OST EFFECTIVE COURSE REQUIREMENTS.	9	3	1	2	0	1.33
DAGENING MY INTERESTS.	9	5	1	0	0	1.33
TIMULATING.	7	6	1	1	0	1.58
ISTENTLY PURSUED.	11	4	0	0	0	1.18
HAVE TAKEN AT PURDUE.	7	5	1	1	1	1.50
AMONG THE TOP 25 PCT. AT PURDUE. .	8	4	0	1	0	1.31

COURSE AND INSTRUCTOR EVALUATION FOR SOCIAL STUDIES EDU
4C6-3 SHERMIS

1. MY INSTRUCTORS ARE GOOD RESOURCE PERSONS.
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UATION FOR SOCIAL STUDIES EDUCATIC 10/23/73
406-3 SHERMIS

	(A) (1)	(B) (2)	(C) (3)	(D) (4)	(E) (5)	MEDIAN
. . . . .	13	1	0	0	0	1.04
LOPMENTS IN THE FIELD. . . .	13	1	0	0	0	1.04
ION OF THE CLASS.	13	1	0	0	0	1.04
UT THEIR PROBLEMS.	6	8	0	0	0	1.63
URS.	10	2	0	1	1	1.15
TH STUDENTS.	9	3	1	0	1	1.22
STUDENTS.	0	2	6	6	0	3.33
MEMBER OF THIS CLASS. . . .	4	9	1	0	0	1.83
ALS.	11	3	0	0	0	1.14
S. . . . . 8 .	7	7	0	0	0	1.50
HING METHODS.	3	8	3	0	0	2.00
NS FROM STUDENTS.	6	8	0	0	0	1.63
RITICISM.	7	6	1	0	0	1.50
TIONS.	11	3	0	0	0	1.14
. . . . .	13	1	0	0	0	1.04
IONS.	10	3	1	0	0	1.20
CLASSROOM DISCUSSION. . . .	13	1	0	0	0	1.04
. . . . .	12	2	0	0	0	1.08
K.	5	8	1	0	0	1.75
. . . . .	11	3	0	0	0	1.14
IMPROVING MY WEAKNESSES. . .	6	8	0	0	0	1.63
OVIDE HELP WHERE NEEDED. . .	5	5	3	0	1	1.80
ND INVOLVE ME IN LEARNING. .	8	6	0	0	0	1.38
O BENEFIT ME.	1	1	0	0	11	1.50
S TO HELP ME LEARN.	11	3	0	0	0	1.14
ED TO THIS COURSE S GOALS. .	11	2	1	0	0	1.14
TIES, NEEDS, AND INTERESTS. .	4	8	0	0	2	1.75
AM TEACHERS.	0	1	0	0	13	2.00
NTERESTS.	0	1	0	0	13	2.00
TS INTO COURSE MATERIALS. .	0	1	0	0	13	2.00
INSTRUCTOR COULD NOT. . . .	0	0	0	0	14	0.00
COURSE.	7	5	1	1	0	1.50
. . . . .	6	4	3	1	0	1.75
I WAS MAKING PROGRESS. . . .	3	7	4	0	0	2.07
OF INSTRUCTIONAL VALUE. . .	2	7	2	0	3	2.00
. . . . .	0	1	0	0	13	2.00
AJOR COURSE OBJECTIVES. . .	6	6	0	0	2	1.50
. . . . .	1	2	4	5	2	3.25
EAR AND SPECIFIC.	10	4	0	0	0	1.20
COURSE.	11	3	0	0	0	1.14
LUE.	11	3	0	0	0	1.14
G AND HELD MY ATTENTION. . .	8	6	0	0	0	1.38
O TO THIS COURSE.	11	3	0	0	0	1.14
S.	8	5	1	0	0	1.38
Y TO WORK AT MY OWN RATE.. .	10	4	0	0	0	1.20
EPARING ME TO STUDENT TEACH. .	2	2	1	5	4	3.50
ISFYING.	4	0	0	5	5	3.60
EFFECTIVE COURSE REQUIREMENTS. .	3	1	0	5	5	3.60
NING MY INTERESTS.	9	5	0	0	0	1.28
LATING.	8	6	0	0	0	1.38
NTLY PURSUED.	4	8	2	0	0	1.88
TAKEN AT PURDUE.	7	6	0	0	1	1.43
G THE TOP 25 PCT. AT PURDUE. .	11	1	0	0	2	1.05

GIFTS, PLEDGES AND BEQUESTS FROM THE 1922 CLASS

for

LEARNING AWARD FUNDING

From the Ag. School	13 gave	$ 2,389.00
From the Ch. E. School	8 gave	8,785.00
From the C. E. School	7 gave	2,973.00
From the E. E. School	11 gave	5,185.00
From the M. E. School	18 gave	3,740.00
From the Science School	12 gave	2,322.00
Friends and Widows	9 gave	1,609.00
For a total of	78 who gave	$27,003.00

REPRINT FROM THE LAFAYETTE JOURNAL COURIER

(West Lafayette, Ind.) "Helping Students Learn" are not merely empty words insofar as the faculty members at Purdue University are concerned. Many professors are looking at new, different and sometimes, strange ideas. In other words, "Innovations in Teaching."

Combining new ideas with exciting techniques they are developing methods of making teaching and learning exciting for both student and teacher.

The old classroom lecture method does not really do the job, for it is far too easy for the student to tune out the teacher. A better idea is more individualized instruction — somewhat like the idea of having the teacher on one end of a log and the student on the other.

In recognition of good teaching, numerous undergraduate teaching incentive awards have been established in the past few years — largely endowed with generous cash prizes through the offices of the Purdue Alumni Foundation.

Topping that, the alumni class of 1922 established a new award on its golden anniversary last year. The award, valued at $3,000.00 annually, is for an outstanding innovation in helping students to learn.

Two associate professors in the Department of Education at Purdue have been chosen from more than 35 nominations as recipients of the 1973 annual award.

James L. Barth and S. Samuel Shermis were chosen for their combination of educational innovations, which they call "Individualized Instructional Analysis System (IIAS)."

"We feel that the award to us is not simply recognition of our individual efforts in devising an innovation to help students learn."

"It is, even more, a recognition that improving teaching and working with students is the business of this university," Barth and Shermis said in accepting the award.

"We see both the cash award and the attendant honor as a way of telling the professors and students at Purdue, the alumni, and the citizens of Indiana who support this institution that teaching is worthwhile and should be rewarded."

The system which Barth and Shermis developed as a means of aiding teachers in capturing the imagination of pupils and meeting their individual needs is a combination of microteaching, interactional analysis, and audio-tutorial techniques.

Microteaching involves a teacher who teaches a very brief lesson which is videotaped. He then observes and participates in a critique of the taped sample of his teaching, revises his teaching, and then performs the entire sequence again.

Interactional analysis involves the identification of certain verbal behaviors in a classroom and the evaluation of these. Thus, it is possible to ascertain how much a teacher talks relative to how much students talk; how many questions are being asked; whether the questions really extend a student's thinking, or whether they cut it short.

Audio-tutorial is an individualized process, which makes use of a variety of programmed audiovisual materials in such a way that students learn according to their own rate.

With the audio-tutorial system, the student and teaching device are paired off. The one-to-one ratio provides each student with a tutor of unlimited patience. The student does not have to compete with others or risk the danger of revealing his ignorance.

The audio-tutorial system was developed by Prof. Samuel Postlethwait who applied it to teaching Purdue's introductory botany course as early as 1961. Postlethwait's approach has been widely imitated in the U.S. and abroad for teaching technical subjects.

Purdue's Department of Education is the first to apply this method to training social studies teachers. In 1969, Barth applied the techniques developed by Postlethwait to a freshman political science class at Purdue in an experimental program for one year.

As the IIAS program developed, modifications were made in certain classrooms in the Education Building and new equipment was installed to take advantage of this particular combination of innovative teaching techniques.

Recent changes include a resource center, a complex audio-tutorial learning laboratory, a facilities depository, and several microteaching stations.

Besides the benefits to the teacher training program, the work at Purdue has had an important spinoff. These innovations have been introduced into a number of Hoosier high schools, into educational workshops, teacher institutes, in-service training for a mental hospital, and for minicourses in other schools of the university.

Purdue educators reject the traditional idea that a good teacher is born that way. Recent work suggests that good teachers use certain kinds of innovative strategies which can be analyzed and then taught to student teachers.

The traditional teacher is constantly hung up with the problem of participation. Out of a class of 30, perhaps 10 will participate. The teacher complains, "I just can't get these kids to do anything."

Barth answers that, "all you're asking for is the direct recall of information. Only a few students have to participate. It's the way you run your class. A few are motivated to achieve, but a great many are not."

Prof. Charles R. Hicks, head of the Department of Education at Purdue, says, "IIAS has effected an important change in teaching behavior. In the past, teacher education tended to be descriptive and persuasive. We verbally advocated innovations, talked about student interests and said that inquiry was desirable."

"But the gulf between what we said and what we did had to be bridged. The system that has slowly developed allows us to focus attention on individual needs of our students, and it thereby provides a model by which neophyte teachers can introduce the same process to their own students."

Barth adds, "Our job in social studies is to teach pupils to identify problems and to help them learn to think through problems. This is radically different from the traditional memorization of dates, battles, and statesmen."

"If the child is in a small school in Indiana, it's very difficult for him to visualize ghetto life in Detroit. Somehow you've got to give him an experience with the slum living conditions that create the desire in some people to burn it down."

"Reform of the social studies," says Barth, "is a very slow, tedious job. We're just getting off the ground. The technology is primitive, but we're beginning to break the chains . . . the chains that bind you to treating every child alike."

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NOTE TO THE READER:

We offer the reader of this entry three alternatives. He may read the script and view the slides. He may listen to the tape and view the slides. He may read the script, listen to the tape, and view the slides. However, whatever alternative he chooses, the slides are an integral part of the presentation. They provide visual evidence to substantiate a good many of the points made in the case study.

CASE STUDY OF IIAS

Deena, short for Diana, Lewis is 21 years of age, a resident until three and a half years ago of a town with the unlikely name of Loogootee, Indiana. Loogootee, located in southern Indiana, is a town of 2,585. It is not unlike many other towns from which students of Purdue originate. It is small, rural, conservative, proud of its conservatism, equating conservatism with something solid and enduring.

Deena has elected to be a teacher and she thinks that she wants to teach history and political science to young people. At this stage of her thinking she does not know very much about the young people whom she wishes to teach and she has yet to learn that political science is not taught in public schools. She is to be excused, however, for this is her first day in a classroom which, she will discover is only a part-time classroom. The rest of the time it is something else. Deena will not only learn what goes on in this room, in eight weeks she will find out a good deal more about the social studies. And, if her experience is at all typical, she will discover much about herself that she didn't know.

Deena and 18 other students are appearing on the first day in Room 204 on the second floor of the Education Building, one of the two or three oldest buildings on the campus of Purdue University. The first glance, however, belies the drab external appearance. The room is not just colorful. "Bizarre" is the word that occurs to Deena, for what else describes the melange

of posters, slogans, maps, op art and pop art, books, skulls descending from the ceiling, games, electronic equipment and other, as yet unidentifiable objects? (Turn on slide projector or viewer)

Immediately Deena begins to structure her perception of the room and soon what was a wild scramble now begins to make more sense. (beep-slide 1) On a red flannel bulletin board is a slogan, an aphorism, so jumbled that one has to work to find out where the first words begin and the last word ends. To the left of the slogan is another one, decorated with geometrical figures of bright hue. (beep-slide 2)

Deena thinks to herself, "What kind of classroom is this? It doesn't look like a classroom to me." Sometime later she will learn, casually, that the instructor who put the room together did not accept the dictum that a classroom necessarily has to look like a classroom.

On the left wall, at the front of the classroom, (beep-slide 3) she sees the first object that looks familiar, that looks like something that belongs in a social studies methods class. A set of wall maps. (beep-slide 4) Over it, however, a gigantic picture of a hippopotamus, and to the right of that a large figure of Adolph Hitler, perched next to an American flag with a variation of the Pledge of Allegiance written on it.

Towards the back of the room are two bookshelves (beep-slide 5) crammed, Deena observes, not just with books but also with

reference works, paperbacks, curriculum materials and things which she cannot identify. On top of the shelf is another familiar object, a globe. An identical sized shelf (beep-slide 6) contains much the same materials, but it is crowned by a skull. The skull, next to a kit, is simply a plastic model, left over some years back from a project which involved a graduate student, physical anthropology and 25 Black students from Gary, Indiana.

Deena notes a social studies methods text. (beep-slide 7) It is written by Ted Fenton, designer of numerous curriculum projects from Carnegie-Mellon. This name, and a few other, will become familiar to Deena as she becomes acquainted with some of the contemporary social studies projects. On a long table, at the the right of the room is a miniature model of a town. (beep-slide 8) Deena examines the model and wonders to herself whether perhaps it has something to do with city planning, or maybe ecology.

The bell rings, students begin to wander to their seats which, she notes for the first time, aregrouped around odd shaped tables scattered throughout the room. Three instructors materialize. Two sit at different points of the room and one rises to greet the students. (beep-slide 9)

After the usual amenities, the instructor begins to explain the social studies program, the structure of the course, requirements, and the reason for the appearance of the room. He introduces the two other instructors and informs the 18 seniors what they had already been told by their undergraduate academic advisors--

that the course will be team taught.

After answering the usual questions about class meetings, the date of student teaching and other items predictably of concern to college seniors who will be stepping into a classroom to student teach in eight weeks, the instructor breaks the 18 students into three groups, asks the two other instructors to work with the groups and he, himself, sits down with one of them.

For the rest of the hour, the six students, encouraged by the instructor, discuss their perceptions of the social studies. At the end of the hour, after the canonical break, the students meet, this time as an entire class.

Representatives of each of the three groups summarize what has been decided. There is, all discover, perfect agreement: everyone perceives the social studies as a dull and irrelevant subject and that the reason class members decided to major in it was that each person felt that surely he or she could teach better than he had been taught.

Another instructor rises (beep-slide 10) and begins to talk. Deena does not know it, but this instructor is a graduate assistant, a doctoral candidate, from Nova High School in Ft. Lauderdale, Florida. He directs questions at them.

Why, he asks, do you suppose we broke you into small groups an hour ago? Why are we meeting in a large group now?

Deena, who has survived a few other education classes, thinks to herself, "These guys are actually demonstrating what they want us to do. They are really teaching the way they say people should."

The third instructor now addresses the class. He stays seated at one of the tables in the back of the room. (beep-slide 11) Slowly he directs their attention to this and that feature. (beep-slide 12) The books, he observes, are color coded. Note the major headings and the color of the label that appears on each work. This is a crude approach, he admits, but it works. You can usually find what you are looking for. (beep-slide 13) The special collection of social studies materials in the room is not arranged in approved Dewey or Library of Congress fashion. But it is arranged in a fashion, and it is nice to have a collection of materials on the social studies.

The ecology game, he remarks, is simply one of the many free or low cost pieces of curriculum materials that you can get, if you hustle. The instructor moves from the Coco Cola ecology game to an AT unit in locating and using materials.

AT, Deena learns is short for "audio-tutorial." This, Deena comes to understand, is one kind of self-instructional process. Using a variety of devices--tapes, slides, facsimiles, guidebooks, transpariences, videotape--students in the class will be asked to teach themselves certain concepts and skills. And to this

end, would they please step next door, to room 209, where they will be taught to use the complex, electronic learning carrels.

Deena and a few of her colleagues walk with one of the instructors to room 209 where she is given a manual and asked to practice loading carousels into projectors, turning on tape recorders, becoming acquainted with names and distinguishing among "film," "filmstrip," and "slide." (beep-slide 14) Deena sits down and begins to practice turning the various machines on and off. (beep-slide 15) Encouraged by the instructor who reassures them that no girl has ever been electrocuted by a machine, Deena begins to feel at home in the carrel. (beep-slide 16)

The instructor concludes his demonstration and supervision of the carrels with the observation that having learned skills and ideas in this way, the class time will not be given over to lecturing. Rather, she is told, the class will be reserved for discussion, demonstration, and confrontation.

As the semester wears on, Deena begins to see that time, space, and teaching personnel are being used in different ways, just as she herself is beginning to redefine her accustomed role as "student."

As the semester proceeds, Deena discovers that more and more she is being asked to assume responsibility. She begins to see that much of what she learns is up to her, that a premium

is put on her maturity and responsibility. There are thousands of pieces of curriculum material in the class, to be sure, but she has to take time to find out how to use what is there. At the appropriate time, she will participate in a simulation game (beep-slide 17) and, then, on her own time, she will practice on some of the games. (beep-slide 18)

The basic unit of the class she discovers is not always one student in competition with all others in a small version of a Hobbesian world. Rather, at times it is the group, the committee. (beep-slide 19) (beep-slide 20) (beep-slide 21)

An important task for the semester is the creation of an individualized instruction unit. To this end, Deena and four students will meet, plan, research, and toward the end of the semester, create audio visuals for the unit. (beep-slide 22) Along the way, they will be asked to work with an instructor who will satisfy himself that each student can frame an objective, select, strategy, sequence ideas, write test question items, and perform the skills necessary to prepare an interesting and effective unit. (beep-slide 23). At the end of the semester, there will be a Social Studies Fair at which time this class, and students from other methods classes, will exhibit and demonstrate their units. (beep-slide 24) After the Fair, the instructors and students are likely to repair to a local pub to celebrate the end of the eight week class and store up strength for the coming eight weeks.

But that doesn't happen until the end of the eight weeks. Just now, there are a variety of skills and concepts to be learned. For instance, how does one introduce a lesson? How does one stimulate students, motivate them to begin thinking? Deena will practice this particular skill, along with everyone else in her class, in microteaching. Microteaching involves the teaching of a five minute teaching sequence which is videotaped. (beep-slide 25) (beep-slide 26) As soon as the student finishes, she is evaluated on a short form by four or five of her peers who are serving as micro-students. (beep-slide 27) Deena will then scrutinize the tape, along with her microsupervisor and the microstudents.

At this moment, she will put into practice another skill she learned in class--interaction analysis. Assisted by the microsupervisor, one of the three team teachers, who will also supervise her own student teaching later, Deena begins to learn the skill of classroom verbal analysis. The instructor (beep-slide 28) shows Deena the difference between a question that stimulates students to ask more questions, to speak out, to express themselves and questions which elicit simply routine information and which, Deena learns, actually close down the discussion.

As soon as the mircostudents, Deena as the microteacher, and her supervisor, are through, Deena will go off with the supervisor to an office and there they will replan the entire sequence, making use of student comments and Deena's own recently

acquired insights. In about an hour or so, Deena will go with her supervisor to another microteaching station in another room, and there they will repeat the entire sequence. Usually the re-teach, as it is called locally, is vastly superior the second time through.

For her particular microteaching, Deena has decided to use a set of telephone books (beep-slide 29) which she will use to develop a variety of questions. What can be learned, Deena will ask, from looking at a telephone book? By examining names, by counting the number of pediatricians in a community, and by looking at many other pieces of data, she will ask students to make inferences and to support them.

Another student will make use of some 100 year old textbooks (beep-slide 30) in the collection of antique social studies texts. In this microteaching demonstration, the microteacher will ask questions about the treatment of minorities, the presence of stereotypes, the absence of information, the emphasis on wars and military victories.

By the middle of the semester eight weeks, Deena realizes that she has yet to hear one lecture. No one has spent any appreciable amount of time translating information to her. The class, as she was told on the first day, is taken up with demonstration, discussion and analysis. Students do not hear lectures on the virtues of individualized instruction. They

have been taught to prepare an individualized instruction unit. (beep-slide 31) They have not heard lectures on the New Social Studies. Rather, they have examined a variety of different New Social Studies projects in an AT lesson. In class, they discuss the assumptions, strategies, and goals of materials like the Mehlinger-Patrick political behavior textbook. (beep-slide 32)

Despite the work load, despite the heavy expectations upon her and her fellow students, Deena has learned that there is room for friendship, for getting to know the instructors, even for humor. (beep-slide 33) Deena begins to see that the system which she has been part of is an odd mixture. What she has learned is continuous with the method of teaching. She learns not only concepts about teaching, she sees them practiced and practices them herself. When Deena leaves the classroom at the end of the eight weeks, she will be placed in a special project school in which her cooperating teachers will be attempting an important innovation. She will find, for instance, that the classroom teacher and the classroom to which she has been assigned has made use of the idea of electronic carrel and the AT unit. However, the carrel is a simple one, really an inexpensive plywood crosshatch on a (beep-slide 34) table. And the equipment used consists of a simple playback recorder, a slide and a filmstrip viewer.

By the end of the eight weeks session, Deena (beep-slide 35) knows that she is hardly a pro. She has barely scratched the

surf and she knows that she must spend the next eight weeks of student teaching building on the skills and concepts she has already learned. But, by this time, she knows that she is ready and that she has had a good beginning.